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THE STATUS OF SPECIALIZED COURSES IN VOCATIONAL AGRICULTURE.

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AN EFFORT WAS MADE TO DETERMINE THE STATUS OF SPECIALIZED HIGH SCHOOL AGRICULTURE COURSES, COMPILE A LIST OF SUCH COURSES BEING OFFERED IN THE UNITED STATES, AND DETERMINE AND EVALUATE THE NEW DEVELOPMENTS IN CURRICULUM CONSTRUCTION IN ARIZONA. AN OPINIONNAIRE WAS RETURNED BY 45 TEACHER EDUCATORS IN 39 STATES. SPECIALIZED COURSES IN THE THIRD AND FOURTH YEAR, COMBINED WITH BASIC COURSES IN THE FIRST 2 YEARS, WERE FAVORED BY 95.5 PERCENT OF THE TEACHER EDUCATORS. SCHOOLS IN 29 STATES WERE PLANNING OR OFFERING SPECIALIZED COURSES IN AGRICULTURAL MECHANIZATION, HORTICULTURE, ORNAMENTAL HORTICULTURE, OR AGRICULTURAL BUSINESS. AN OPINIONNAIRE WAS RETURNED BY 85 PERCENT OF THE VOCATIONAL AGRICULTURE TEACHERS AND 77 PERCENT OF THE ADMINISTRATORS IN 35 ARIZONA SCHOOLS. SPECIALIZED COURSES REGARDED AS VALUABLE BY 85 PERCENT OF BOTH GROUPS, IN RANK ORDER, WERE AGRICULTURAL MECHANICS, AGRICULTURAL BUSINESS, AGRICULTURAL OCCUPATIONS, HORTICULTURE, AGRICULTURAL ECONOMICS, FARM POWER, AND WELDING. ADEQUACY OF FACILITIES, TIME REQUIREMENTS, AND TEACHER'S TRAINING WERE REGARDED AS LIMITING FACTORS BY 60 PERCENT OF BOTH GROUPS, BUT 78 PERCENT AGREED THAT SPECIALIZED COURSES WOULD MEET INDIVIDUAL NEEDS BETTER THAN PRESENT PROGRAMS, AND 90 PERCENT WERE INTERESTED IN OFFERING THESE COURSES. RECOMMENDATIONS INCLUDED ESTABLISHMENT OF PILOT PROGRAMS, DEVELOPMENT OF TEACHING AIDS, AND BETTER COORDINATION BETWEEN TEACHERS AND STAFF MEMBERS OF THE UNIVERSITY IN DEVELOPING COURSES. (JM)

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PART I: THE STATUS OF SPECIALIZED COURSES IN VOCATIONAL AGRICULTURE BY STATES AND OPINIONS OF TEACHER EDUCATORS IN AGRICULTURE.

Summary

A total of 29 states indicated that they were planning or offering specialized courses in vocational agriculture as reported by head teacher trainers in the United States.

Curriculum development utilizing specialized courses for third and fourth year students in combination with basic content in first and second year courses was favored by 40 head teacher trainers in the United States which represented 90.9 per cent of those responding to the opinionnaire.

A total of 95.5 per cent of the teacher educators in agriculture agreed that specialized courses for third and fourth year students are desirable.

Specialized courses being planned or offered by the largest number of states were as follows:

1. Agricultural Mechanics, 8 states
2. Horticulture, 8 states
3. Ornamental Horticulture, 7 states
4. Agricultural Business, 6 states

Introduction

The main problem in this study was the determination of the status of specialized courses in vocational agriculture by states and opinions of head teacher trainers in agriculture on the value of such courses. The study included a survey sent to the head teacher trainer in each state to determine their opinion as to the value of specialized courses in vocational agriculture. A second phase of the study was to compile a list of specialized courses in agriculture being planned or offered in schools in the United States and to collect outlines of as many of these courses as are available.

The term "specialized course" was defined as a course offered on the secondary level in a particular aspect of agriculture or agricultural related subjects. These courses may be either one or two semesters in length. Examples of specialized courses are Agricultural Business, Horticulture, and Advanced Farm Mechanics.

An opinionnaire was sent to the head teacher trainers in agriculture in each state in the United States. They were asked if they agreed with the use of specialized courses for third or fourth year students. They were also asked if they agreed to a method of curricular development utilizing specialized courses. In addition, the opinionnaire was designed to determine the number of schools offering specialized courses and the title of specialized courses being planned or offered in each state.

Findings

Opinionnaires were returned by 45 head teacher trainers representing 39 states. Table 1 summarizes the agreement among the head teacher trainers as to the value of specialized courses and of using specialized courses as a method of curriculum development.

TABLE 1. Agreement among head teacher trainers in the United States on the use of specialized courses in vocational agriculture.

QUESTIONS	YES		NO	
	No.	Percent	No.	Percent
Is curricular development utilizing specialized courses for third and fourth year students with basic content in first and second year courses desirable?	40	90.9	4	9.1
Are specialized courses for third and fourth year students desirable?	42	95.5	2	4.5
Are specialized courses being planned or developed in your state?	29	74.4	10	25.6

The first question in Table 1 asked the respondents if they agreed with the method of curricular development utilizing specialized courses for third and fourth year students. The general plan for these courses was described as follows:

1. The content for first year students is designed to provide a general overview of agricultural science and the broad field of occupations in agriculture.

2. The course for second year students is composed of basic content in plant and animal science.

3. Courses for third and fourth year students will include a number of special unit one semester or one year courses which may be elected in accordance with interest and needs.

The third part of Table 1 shows the number of states planning or offering specialized courses in vocational agriculture. Of the 29 states reported as offering or planning specialized courses, 16 reported specialized courses being offered and the other 13 are planning specialized courses or indicated they intended to start work on specialized courses within the next few months.

Table 2 shows the states reported as offering specialized courses in vocational agriculture and the approximate number of schools in each state offering specialized courses. One school in Wisconsin, Janesville Senior High School, has in operation a pilot program utilizing specialized courses. One school in Nevada, Virgin Valley High School, is also conducting a pilot program with specialized courses.

TABLE 2. Approximate number of schools offering specialized courses in vocational agriculture as reported by head teacher trainers.

STATE	NUMBER OF SCHOOLS
Arizona	16
California	12
Connecticut	
Delaware	1
Florida	25
Idaho	6
Mississippi	40
Missouri	5
New Jersey	2
New York	120
Ohio	35
Oklahoma	8
South Carolina	12
Virginia	2..
Washington	10
Wisconsin	6

Table 3 lists the titles of specialized courses in vocational agriculture being planned and/or being offered in each of the reporting states. The specialized courses that are being planned or offered by the largest number of states include Agricultural Business, Ornamental Horticulture, and Agriculture Mechanics. The large number of titles of specialized courses shown in Table 3 indicate the interest in this method of course construction and the many areas in which they are being used. There may be many other courses offered in .. .. states which did not report or were not included in the replies from the head teacher trainers.

TABLE 3. Specialized courses in vocational agriculture being planned or offered in selected states as reported by head teacher trainers.

	States	
Courses	Courses Planned	Courses Now Offered
Agricultural-Business	Arizona, Florida, Illinois, Indiana, Minnesota New York, Oklahoma, Utah, Washington	

TABLE 3. Continued.

Courses	States	
	Courses Planned	Courses Now Offered
Agricultural-Chemicals		North Carolina
Construction		North Carolina
Distribution		Virginia
Mechanics	Mississippi, Indiana South Carolina	Georgia, Illinois, New York, Ohio, Oklahoma
Production		North Carolina
Services	Ohio	
Science	Indiana	
Science and Mechanics		North Carolina
Conservation and Forestry	New Jersey, New York	
Crops and Soils		North Carolina, Ohio
Dairy Technology	New Hampshire	
Farm Machinery Technology		Delaware, North Carolina
Farm Management		North Carolina, Ohio
Floriculture and Ornamentals		New Jersey
Floriculture	Hawaii	
Food Processing	Ohio	
Forestry		California, Georgia North Carolina, Washington
Horticulture	Delaware, Indiana Minnesota, South Carolina	New York, North Carolina, Ohio, Oklahoma
Introduction to Agricultural Occupations		North Carolina
Landscape Gardening	Hawaii, New Hampshire, Utah	

TABLE 3. Continued.

Courses	States	
	Courses Planned	Courses Now Offered
Non-Farm Agricultural Business	Mississippi	
Ornamental Horticulture	Illinois, Florida, Mississippi, New Hampshire, Utah, Washington	California, North Carolina, Virginia
Rural Recreation		California

Conclusions

The following conclusions were drawn from the data gathered.

1. That head teacher trainers in Agriculture in the United States agree that specialized courses are of value for third and fourth year students.

2. That teacher trainers in Agriculture agree that a method of curriculum development utilizing specialized courses for third and fourth year students with basic content for first and second year students is desirable.

3. That a wide range of courses are being planned or offered as specialized courses in Agriculture in the United States.

PART II: THE STATUS OF SPECIALIZED COURSES IN VOCATIONAL AGRICULTURE IN ARIZONA AND OPINIONS OF TEACHERS AND SCHOOL ADMINISTRATORS AS TO THEIR NEEDS.

Summary

The following specialized courses were marked by 85 per cent of both the teachers and administrators as either "valuable" or "very valuable".

1. Basic Agricultural Mechanics
2. Agricultural Business
3. Agricultural Occupations
4. Basic Horticulture
5. Economics of Agriculture
6. Farm Power
7. Welding

The seven courses are listed in the order in which they were ranked by the respondents.

Three problems associated with specialized courses were rated by 60 per cent or more of the respondents as being either "serious" or "limiting factor". The three items are listed below in order of severity, the most severe first.

1. Adequacy of present facilities.
2. Additional time required to start and supervise the farming program and/or work experience program.
3. Teachers training and background.

Of both teachers and administrators, 78 percent agreed that specialized courses would meet individual needs better than present programs in their schools.

There was nearly unanimous agreement among both groups that teaching aids should be developed for specialized courses. Over 90 per cent of both teachers and administrators indicated that they would be interested in offering specialized courses in their schools. Over 85 per cent of both groups felt that specialized courses were needed in their schools.

Introduction

This study was conducted to determine and evaluate new developments in curriculum construction particularlyas they apply to vocational agriculture. As part of the study, Arizona vocational agriculture teachers and their administrators were asked for their opinions on the desirability of specialized courses in their school systems. An opinionnaire was prepared and sent to both agriculture teachers and their administrators. The opinionnaire contained the titles of fourteen specialized courses that the respondents were asked to rate as either "not valuable", "valuable", or "very valuable".

In addition, the respondents were asked to rate eight items as to the seriousness in their school if specialized courses were offered. If the items were so serious as to prevent the offering of specialized courses, they were to mark "limiting factor". If the items would present difficulties, but probably not prevent offering specialized courses, they were to mark "serious". Items that present no particular problem were to be marked "no problem".

The opinionnaire also contained four questions designed to determine if the respondents agreed with a method of curricular development utilizing specialized courses; if they felt specialized courses were needed in their school; if teaching materials should be prepared for specialized courses; and if they were interested in offering specialized courses.

Findings

Opinionnaires were returned by over 85 per cent of the vocational agriculture teachers and by 77 per cent of the administrators. Table 1 shows the responses received on the value of the listed specialized courses. The table shows the responses of the teachers and administrators separately in order to compare the ratings of each group. Of the fourteen specialized courses included in the list, a total of seven courses were rated by over 85 per cent of both groups as being either "valuable" or "very valuable". The seven courses so rated were: (1) Basic Agricultural Mechanics, (2) Agricultural Business, (3) Agricultural Occupations, (4) Basic Horticulture, (5) Economics of Agriculture, (6) Farm Power, and (7) Welding.

The courses on which there was the least amount of agreement between the groups on value were: (1) Animal Science--Advanced, (2) Farm and Home Electricity, (3) Landscape Management, and (4) Range Management.

A total of twelve courses were suggested by either agriculture teachers or school administrators in Arizona. The twelve courses were (1) Advanced Agricultural Mechanics, (2) Agriculture Chemicals, (3) Care and Management of Domestic Pets, (4) Electronics in Agriculture, (5) Farm Management, (6) Forestry, (7) Livestock Management, (8) Lumber, (9) Mechanics of Small Engines, (10) Soil and Water Management, (11) Record Keeping, and (12) Wildlife and Recreation. Of the twelve courses, two were suggested by more than one respondent. Those were: Forestry, and Soil and Water Management.

Table 2 shows the response of the teachers and administrators to four questions as to value, need, and interest in offering specialized courses in addition to the question on the development of teaching materials.

If the "undecided" responses are not considered, slightly over 78 per cent of both the teachers and the administrators agreed that specialized courses would meet individual needs better than the present courses offered for juniors and seniors. Again, not considering the "undecided" responses, all but one of the teachers indicated they would be willing to offer specialized courses and all but two of the administrators. A slightly smaller number felt specialized courses were needed in their school, but still 90 per cent of the teachers and 85 per cent of the administrators felt there was a need. There was nearly unanimous agreement in both groups that teaching aids should be developed for specialized courses.

TABLE NO. 1 - Summary of Arizona vocational agriculture teachers and their administrators opinions on the relative value of specialized courses.

	VERY VALUABLE				VALUABLE				NOT VALUABLE			
	Vo. Ag. Inst.		Admin.		Vo. Ag. Inst.		Admin.		Vo. Ag. Inst.		Admin.	
Specialized Courses	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent
Agricultural Business	24	66.7	15	60.0	11	30.0	10	40.0	1	2.7	0	0
Agricultural Occupations	17	46.0	14	58.3	20	54.0	9	37.5	0	0	1	4.2
Animal Science-Advanced	19	55.9	10	40.0	14	41.2	11	44.0	1	2.9	4	16.0
Basic Agricultural Mechanics	23	63.9	15	60.0	13	36.1	10	40.0	0	0	0	0
Basic Horticulture	16	45.7	15	60.0	18	51.4	10	40.0	1	2.9	0	0
Economics of Agriculture	14	38.9	6	24.0	21	58.3	19	76.0	1	2.8	0	0
Farm and Home Electricity	5	14.3	1	4.2	26	74.3	17	70.8	4	11.4	6	25.0
Farm Power	14	38.9	4	17.4	19	52.8	18	78.3	3	8.3	1	4.3
Floriculture	1	2.8	2	8.4	17	47.2	11	45.8	18	50.0	11	45.8
Landscape Management	6	16.7	3	12.0	26	72.2	16	64.0	4	11.1	6	24.0
Nursery Management	6	17.1	2	8.0	21	60.0	15	30.0	8	22.9	8	32.0
Plant Science-Advanced	19	52.8	10	41.7	13	36.1	10	41.7	4	11.1	4	16.6
Range Management	12	33.3	11	45.8	9	25.0	8	33.3	15	41.7	5	20.9
Welding	15	44.1	14	66.7	16	47.1	4	19.0	3	8.3	3	14.3

TABLE NO. 2 - Summary of Arizona vocational agriculture teachers and their administrators opinions of specialized courses and value in their systems.

QUESTIONS	YES				NO				UNDECIDED			
	Vo. Ag. Inst.		Admin.		Vo. Ag. Inst.		Admin.		Vo. Ag. Inst.		Admin.	
	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent
Would specialized courses meet individual needs beter than present program for juniors and seniors?	25	69.2	19	76.0	7	19.7	5	20.0	4	11.1	1	4.0
Would be interested in offering specialized courses in your school?	30	83.3	19	76.0	1	2.8	2	8.0	5	13.9	4	16.0
Are specialized courses needed in your school?	27	77.1	17	68.0	3	8.6	3	12.0	5	14.3	5	20.0
Should teaching aids be developed for specialized courses?	35	97.2	24	96.0	1	2.8	1	4.0	0	0	0	0

TABLE NO. 3 - Summary of the opinions of Arizona vocational agriculture teachers and their administrators as to the relative difficulty of problems associated with offering specialized courses in agriculture in Arizona.

	LIMITING FACTORS				SERIOUS				NO PROBLEMS			
	Vo. Ag. Inst.		Admin.		Vo. Ag. Inst.		Admin.		Vo. Ag. Inst.		Admin.	
ITEMS	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent
Cost of specialized courses	6	16.7	5	20.0	11	30.5	3	12.0	19	52.8	17	68.0
Extra Teaching time required	7	19.5	3	12.0	13	36.1	11	44.0	16	44.4	11	44.0
Scheduling problem	9	25.0	3	12.0	18	50.0	11	44.0	9	25.0	11	44.0
Adequacy of present facilities	11	30.6	10	40.0	12	33.3	10	40.0	13	36.1	5	20.0
Student interest	3	8.6	3	12.6	12	34.3	11	45.8	20	57.1	10	41.7
Over specialization	4	11.8	2	8.7	5	14.7	8	34.8	25	73.5	13	56.5
Teachers background & training	5	14.0	X	X	17	47.2	X	X	14	38.8	X	X
Additional time required to supervise program	10	27.7	6	25.0	20	55.6	11	45.8	6	16.7	7	29.2

Other problems suggested are listed below:

Small Schools

Time

Students attitudes

Extra teachers needed

College entrance requirements

Selling older teachers on the idea

Community disfavor if break traditional curriculum

Public acceptance

TABLE NO. 4 - Arizona schools offering specialized courses in agriculture including titles of courses and number of years offered.

SCHOOLS	TITLE OF COURSES	YEARS OFFERED
Alchesay	General Agriculture	1
	Vocational Agriculture Mathematics	1
	Vocational Agriculture Science	1
Agua Fria	Advanced Farm Mechanics	1
	Horticulture	1
Casa Grande	Advanced Agriculture Mechanics	3
	Agricultural Economics	1
	Animal Science	1
Coolidge	Horticulture	7
Douglas	Farm Shop	1
Elfrida	Farm Shop	-
Florence Union	Advanced Farm Mechanics	8
Glendale	Farm Mechanics	10
Kofa	Advanced Agricultural Mechanics	-
Mesa	Horticulture	-
Parker	Farm Mechanics	4
Phoenix Union	Horticulture	1
Safford	Welding	4
Tempe	General Agriculture	-
West Wood	Animal Science	0
	Farm Mechanics	1
	Horticulture	0
Yuma	Advanced Farm Mechanics	5

Responses as to the relative severity of the eight items included on the opinionnaire are summarized in Table 3. Of the eight items, three items were rated by 60 percent or more of the respondents in either or both groups as either "serious" or "limiting factor". Adequacy of present facilities; teachers' background and training; and additional time required to supervise the program were the three items so marked. Other factors suggested by the respondents as possible limiting factors are shown at the bottom of Table 3.

Table 4 gives data on specialized courses offered in Arizona high schools. A total of sixteen of the thirty-five schools in the state who offer vocational agriculture indicated they have or are offering specialized courses. The largest number of specialized courses were in the area of farm shop or farm mechanics. Eight of the schools offered only farm mechanics as a specialized course. Five of the other eight schools offered specialized courses in Horticulture.

Conclusion

1. That specialized courses in the area of Basic Agriculture Mechanics, Agricultural Business, Agricultural Occupations, Basic Horticulture, Economics of Agriculture, Farm Power, and Welding are of value in Arizona.

2. That there is agreement among both Arizona vocational agriculture teachers and their administrators that specialized courses would meet individual needs better than present programs offered for third and fourth year students and that the schools would be interested in offering specialized courses.

3. That the major limitations to the offering of specialized courses are the adequacy of the present facilities, time required to start and supervise the program, and the teachers' training and background.

Recommendations

The following recommendations are based on the findings of this study:

1. That a pilot program be established in Arizona to study the value of a curriculum in which specialized courses are utilized in place of the present third and fourth year program now being used.

2. That teaching aids be developed for those specialized courses in which the greatest value has been expressed by vocational agriculture teachers and their administrators.

3. That a close coordination between vocational agriculture teachers in Arizona and staff members at the University of Arizona be established in the development of quality specialized courses.